Sorting Program

For this assignment, you are to write a comparative algorithm that will

compare the efficiency of three sorting routines. Here is the approach

you should use:

1. Write a Bubble Sort function with a test program.

2. Write a Shell Sort function with a test program.

3. Write a Quick Sort function (using stacks, rather

than recursion) with a test program.

4. Write the main program (that will include the other 3 programs).

Notes:

In the test programs, the logic should be as follows:

Print the random numbers

Sort the numbers keeping track of the costs

Print the sorted numbers

Print the cost

Use \_\_INCLUDE\_LEVEL\_\_ in all of the programs, which includes the sorting

routines and a test program. ( [Sample program using include level](http://www.comsc.uco.edu/~mcdaniel/prog2/include-level))

The main program should have the following logic.

Generate 20 random numbers.

Print the random numbers.

Move the original random numbers into another array.

Bubble Sort the other array.

Print the sorted numbers AND the cost of sorting the numbers.

Move the original random numbers into another array.

Shell Sort the other array.

Print the sorted numbers AND the cost of sorting the numbers.

Move the original random numbers into another array.

Quick Sort the other array.

Print the sorted numbers AND the cost of sorting the numbers.

To compute the cost, you assign values to every swap and every

compare. A compare costs 1 unit, and a swap costs 6 units.

In this assignment, and all subsequent assignments, you are to include

a prologue (header) in your program. The prologue should consist of the

following:

Your name

The Name of the class

The Due Date

A Name for the program

A short description of the program

Example:

Bill McDaniel

Programming II

Due: September 11, 2009

Infix to Postfix

This program that will accept infix expressions and convert them to postfix.